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Markus Schade

date of birth: 14.06.1972

Professional Interest Structural biology and rational drug development

Education **Massachusetts Institute of Technology** Cambridge, MA
and
Forschungsinstitut f. molek. Pharmakologie Berlin, Germany

December 1996 – March 2000 Ph.D. thesis with Prof. Alexander Rich (Cambridge) and Prof. Hartmut Oschkinat (Berlin) on “Structure-function analysis of the first Z-DNA binding protein domain Z α of the human RNA editing enzyme ADAR1”. This work encompasses the NMR solution structure of Z α as well as biochemical and mutational investigations of the Z α /Z-DNA interaction.

May - November 1996 Master Thesis on “The first naturally occurring left-handed DNA binding protein - a binding model based on alanine scanning mutagenesis” in the laboratory of Prof. Alexander Rich to receive the Diplom in Biochemistry from the University of Hannover, Germany. In this work several Z α residues essential for binding Z-DNA were identified.

University of Hannover Hannover, Germany

October 1991 - November 1996 Diplom (Master) in Biochemistry, November 1996. Broad curriculum including ample practical experience with a major in biochemistry and biophysical chemistry and a minor in technical chemistry (chemical engineering).

Publications Schade, M.; Turner, C.J.; et al. „The solution structure of the Z α domain of the human RNA editing enzyme ADAR1 reveals a prepositioned binding surface for Z-DNA“ (1999) *Proc. Natl. Acad. Sci. USA*, **96**, 12465-12470.

Schade, M.; Behlke, J.; et al. „A 6 bp Z-DNA hairpin binds two Z α domains from the human RNA editing enzyme ADAR1,, (1999) *FEBS Letters*, **458**, 27-31.

Curriculum Vitae

Schade, M.; Turner, C.J.; et al. „Structure/function analysis of the Z-DNA binding domain Z α of dsRNA adenosine deaminase type I reveals similarity to the (α + β) family of helix-turn-helix proteins“ (1999) *EMBO J.*, **18**, 470-479.

Herbert, A.; Schade, M.; et al. „The Z α domain from human ADAR1 binds to the Z-DNA conformer of many different sequences“ (1998) *Nucleic Acid Res.*, **26**, 3486-3493.

Experience

King's College London

London, U.K.

March - April 1995 Internship on “Biologically relevant thiols involved in the toxicity of nitric oxide and nitrite on food spoilage bacteria” with Prof. Richard Cammack. The effects of the model compound sodium nitroprusside, a well-established anti-heart-stroke drug, on biological thiols was investigated by Electron Spin Resonance (ESR) spectroscopy.

Institute of Organic Chemistry University Hannover, Germany

October 1993 - January 1994 Internship on “Spectroscopic methods in organic chemistry” with Prof. H. Dudeck. Nuclear Magnetic Resonance (NMR) spectroscopy, Mass spectroscopy (MS) and Infra-red spectroscopy (FT-IR) was applied to elucidate the composition of organic compounds.

Medical School Hannover

Hannover, Germany

October 1995 - February 1996 Special courses on “Human Pharmacology and Toxicology” with Prof. H. Wellhöner.

March 1996 Internship on “Developmental biology in mice” with Prof. U. Rüther.

Teaching Experience

October 1993 - January 1996 Teaching assistant in chemistry and biochemistry for first and second year undergraduate students.

Awards

Ph.D. fellowship from the Boehringer Ingelheim Fonds, Stuttgart
“R.R. Ernst Stipendium” from the NMR-Division of the German Chemical Society, Würzburg

Languages

native German, fluent English and basic French

Activities

1997 Team captain of the European Club volleyball team at the Massachusetts Institute of Technology. Presently I am active player in the “FMP soccer team” in Berlin. I play trumpet, and I am interested in international politics and foreign cultures.

Berlin, January 10, 2000